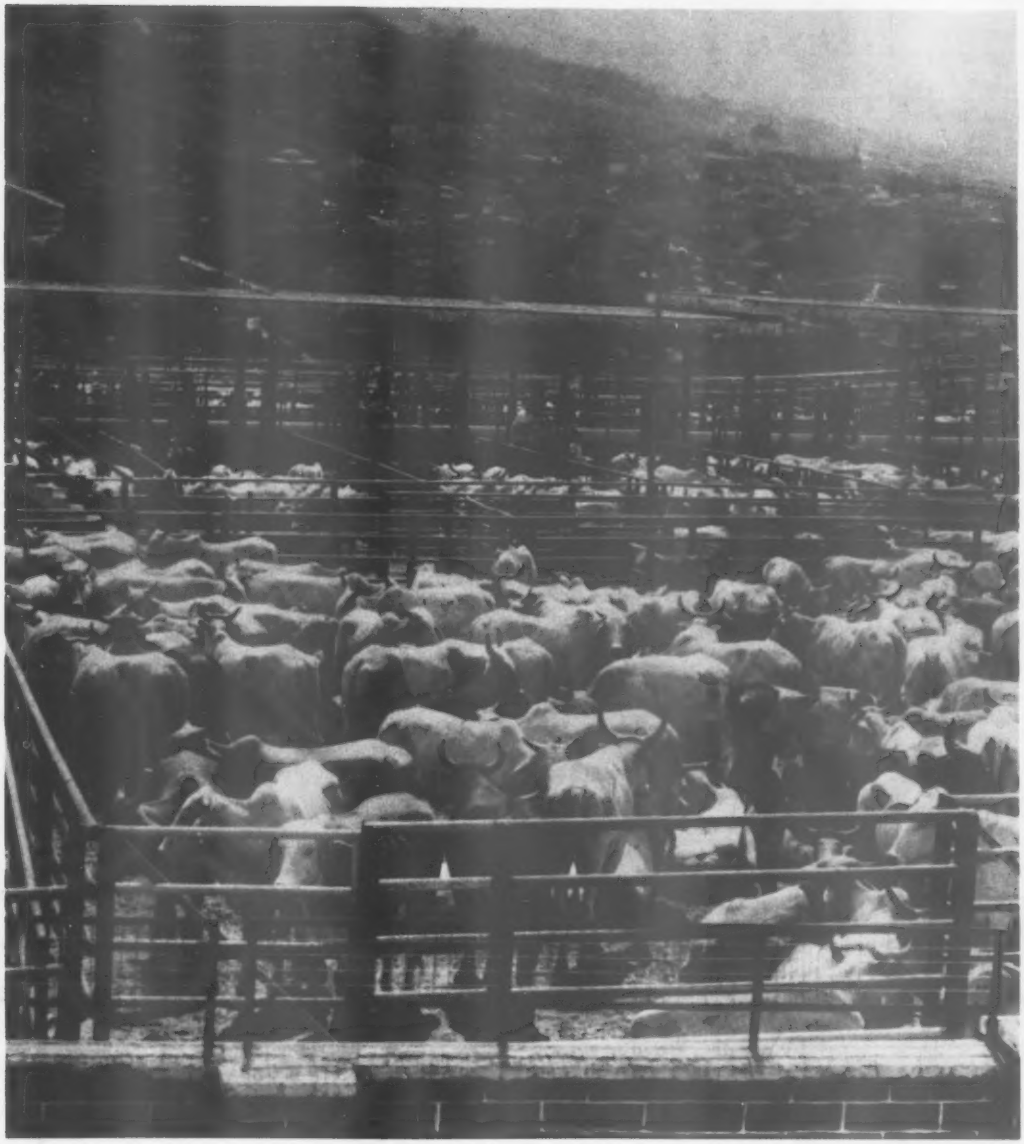
FOREIGN AGRICULTURE



Cattle in Colombia

Cotton in the USSR

Colombia's Expanding Cattle Industry

June 14, 1976

Foreign
Agricultural
Service
U.S. DEPARTMENT
OF AGRICULTURE

FOREIGN AGRICULTURE
Vol. XIX • No. 23 • June 14, 1976

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Unloading seed cotton at a Soviet gin.

COTTON IN THE USSR

By ROBERT B. EVANS
Foreign Commodity Analysis, Cotton
Foreign Agricultural Service

FEW CROPS in the USSR have been so pampered or productive as cotton, whose burgeoning output has surprised even the Soviet planners while causing some stiff export competition for U.S. cotton.

This trade competition reaches its zenith in Western Europe, where Soviet cotton sales have risen steadily while U.S. sales have dwindled. It has been helped along by the Soviet propensity to offer attractive discounts in countries like France that enter into trade agreements with the USSR. And chances are that it will continue to grow as long as Soviet cotton production is heading upward.

During 1975/76 (August-July) the nation has experienced a dip in its cotton output, but this is the first interruption of a record-breaking streak that began in 1969/70. Since that earlier year, cotton has become the USSR's top agricultural export, while the USSR has been the world's leading cotton producer in 4 of the past 6 years.

In other areas, Soviet cotton also is a recordbreaker: During the last 10 years, its yearly production gain has averaged 400,000 bales—far the largest advance for any country or continent—with about half the gain from expanded area and half from rising yields. With practically all its cotton irrigated, the USSR has the largest irrigated cotton area in the world, and, consequently, some of the world's highest cotton yields.

Production. Cotton production in the USSR covers a wide area centered east, southeast, and south of the Aral Sea and southwest of the Caspian Sea in latitudes as far north as Washington, D.C., and Chicago. Nearly two-thirds of the crop is in the State of Uzbekistan, 14

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percent in Turkmenistan, 11 percent in Tadzhikistan, and 12 percent elsewhere.

Actual production usually exceeds that of any other nation, including the United States. This comes not because of larger area—the USSR's area this season about equals that of the United States west of the Mississippi—but because yields are considerably higher. These yields rose from an average of 729 pounds per acre during 1969-71 to a record 872 in 1974/75, and then fell to 810 during the current season.

In comparison, the average yield on U.S. irrigated land varies from over 1,000 pounds per acre in California and Arizona (1973-75) to around only 450 pounds in the bad weather beset Lubbock region of West Texas during 1973 and 1974. The U.S. national yield is 467 pounds (1973-75), but three-fourths of the U.S. cotton area is raingrown, which is normally associated with lower yields.

Soviet reports attribute the strong rise in yields recently to increased use of fertilizer and chemicals, expansion in use of wilt-resistant varieties, and increased crop rotation.

Soviet cotton-breeding research has successfully developed varieties that thrive in a short growing season with long daylight periods in summer. Another aim has been to develop compact plant types, to facilitate mechanical harvesting.

Certainly much of the success in Soviet cotton culture is because of the resources allocated to cotton. For instance, more fertilizer is usually used on cotton than on any other crop: 367 kilograms of "active ingredients" were allocated per hectare (1 ha.=2.471 acres) in 1974, compared with 299 on sugarbeets, 40 on grain other than corn, and 124 on corn. In 1975, however, cotton was slightly surpassed by sugarbeets in this regard—391 kilograms versus 399. Also, the Soviet Government continues to give producers substantial benefits, including a 50 percent bonus, for all cotton produced above plan. Prices paid to farmers, if converted to dollars at the official Soviet exchange rate, translate into extremely high returns from a U.S. point of view. The significance of this situation, however, is difficult to determine because of different accounting and payment methods and uncertainty regarding the real value of the ruble.

Although the USSR is already the largest cotton producer in the world, further substantial increases are planned. In contrast to the disappointing results for some of the other commodities, the USSR's cotton crops have consistently been well above goals. This was true even during the disappointing 1975/76 season, when the crop of 12.1 million bales exceeded the goal of 11.9 million. The 10th plan, announced in December 1975, calls for an average production in 1976-80 of 13.1 million bales and for 13.8 million in 1980.

IN UZBEKISTAN, the leading cotton State, production is to increase from 7.8 million bales in 1975 to 9.2 million (including above-plan output) by 1980. New irrigation and amelioration of old irrigated land is to take place.

In Turkmenistan, the second most important cotton State, plans are to increase output another 200,000 bales over average 1971-75 output. Further construction of the Kara-Kum Canal is expected to add 85,000 hectares of new irrigated land, while amelioration of 110,000 hectares of old irrigated land is to be accomplished.

An article in *Sel'skaya Zhis'n* April 6, 1976, reports that 900 meters have been completed on a new underground pipeline to transport water from the Nurek Sea to the last remaining large mass of nonirrigated land in Tadzhikistan. When eventually completed, the new project is expected to irrigate 188,000 acres, which will yield 100,000 bales of cotton along with other crops.

Soviet cotton data present difficulties for those accustomed to U.S. cotton statistics. The cotton crop is reported on a seed-cotton basis instead of lint and seed separately, as in the United States. Ginnings are reported in the USSR as they are in the United States, but cotton is ginned throughout the year instead of immediately after picking as in the United States. In 1973/74 and 1974/75 the cotton crop, converted to lint at customary lint ratios, was 6 percent larger than ginnings.

Perhaps some seed cotton from the large harvests was carried into the next season. Perhaps, also, the lint ratio has declined slightly because of more trash in seed cotton brought to the gin. This is a possibility because 50 percent of the 1974/75 Soviet crop—and 46 percent of the 1975/76 Uzbekistan crop—was reportedly machine harvested.

Soviet cotton is about 93 percent Upland and 7 percent Egyptian (barbadense)—in 1975, 11.2 million and 900,000 bales, respectively. Most of the Upland cotton appears to be 1-1/16" in staple length, the same as the average

SOVIET COTTON OUTPUT DIPPED IN 1975/76 BUT REBOUND SEEN

A 6-year streak of records in USSR cotton production was broken in 1975/76 as the country's cotton crop fell 6.5 percent from the 1974/75 record. However, output next season appears likely to rebound enough to equal or exceed the 1974/75 record.

Soviet cotton output in 1975/76 (year ending July 31) came up against some unfavorable weather for a consequent decline to 7,864,000 metric tons from 8,409,000 in 1974/75. Translated into lint cotton at usual ginning ratios, this meant an outturn of 12.1 million bales (480 lb net) against 13 million the year before.

Although area planted to cotton set a new high 1.4 percent above that of the year earlier, average yield fell 8 percent because of reduced supplies of irrigation water; unfavorable weather at planting time; and rain, snow, and freezing weather at picking time in October 1975.

Conditions for the 1976/77 crop have not been ideal either, but neither have they been bad enough to cloud production prospects. Despite a late spring in the cotton areas, reports as of May 3 indicate that cotton planting had been completed on 2.9 million hectares, or 98 percent of the USSR target. By May 10, planting had been completed on 99.8 percent. Winter precipitation in the cotton region was moderately below normal, and use of timely measures to prevent a water shortage in Uzbekistan were stressed this spring. But based on present information, and assuming normal weather, cotton yields appear likely to rise after having declined in 1975/76 for the first time since 1969/70.

—ROBERT B. EVANS, FAS

for the United States. Only about one-fourth of the Egyptian types, or 225,000 bales, appears to be extra-long staple in length (1-3/8″ and over). Practically all of the much smaller U.S. Pima crop (56,000 bales) is in this category.

Trade. Although world exports of cotton were down substantially in 1974/75, Soviet cotton exports continued their long-term upward trend. They are estimated at 3.6 million bales in 1974/75, compared with 3.4 million the season before and an average of 2.3 million bales during 1965/66-1969/70. The USSR share of the world export market rose from 13.5 percent during 1965/66-1969/70 to 21.3 percent in 1974/75. During the same period, the U.S. share rose from 21.3 percent to 23.0 percent.

In 1972, cotton replaced grain as the leading agricultural export of the Soviet Union and remained in this position in 1973 and 1974.

In calendar years 1970-74 these cotton exports were valued in Soviet foreign trade statistics at 446 million rubles ($2.8 billion at Soviet officially fixed rates), which was 82 percent of the value of grain imports during the same period.

It appears, however, that the USSR exports cotton at prices considerably below those paid to farmers. In 1973, collective farms were paid 1,624 rubles per ton for cotton on a lint basis, while average value of cotton exported in 1974, according to Soviet statistics, was 872 rubles per ton. And this cotton had to be transported great distances to Baltic and Pacific ports and other export destinations.

Eastern Europe is the USSR's major market, taking 1.8 million bales, or 54 percent of Soviet cotton exports, in calendar 1974. During 1970-74, an annual average of 2.6 million bales was shipped from all cotton exporters into this group of countries—Poland, the German Democratic Republic, Czechoslovakia, Hungary, Romania, and Bulgaria. More than two-thirds of the 1974 total was from the USSR, compared with 59 percent during 1965-69.

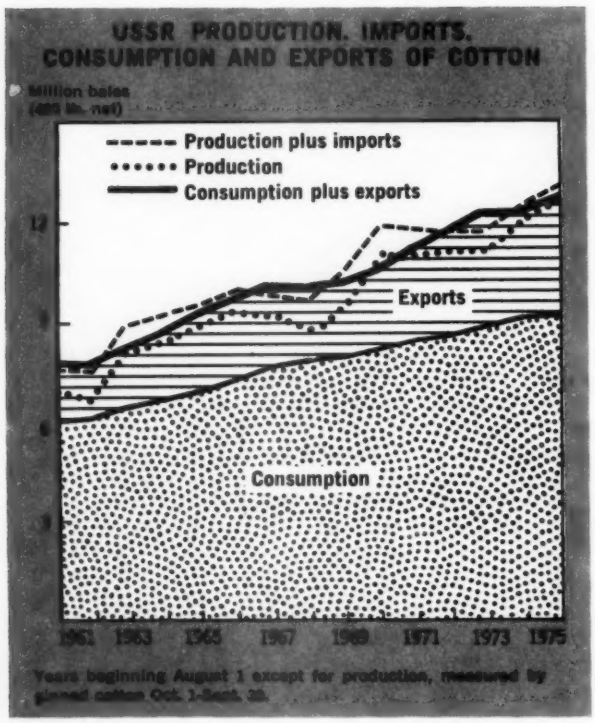
THE United States, in contrast, has only a limited market in Eastern Europe. Normally, it sells from 50,000 to 90,000 bales annually to Romania, 20,000 to 50,000 to Poland, and none to the other countries.

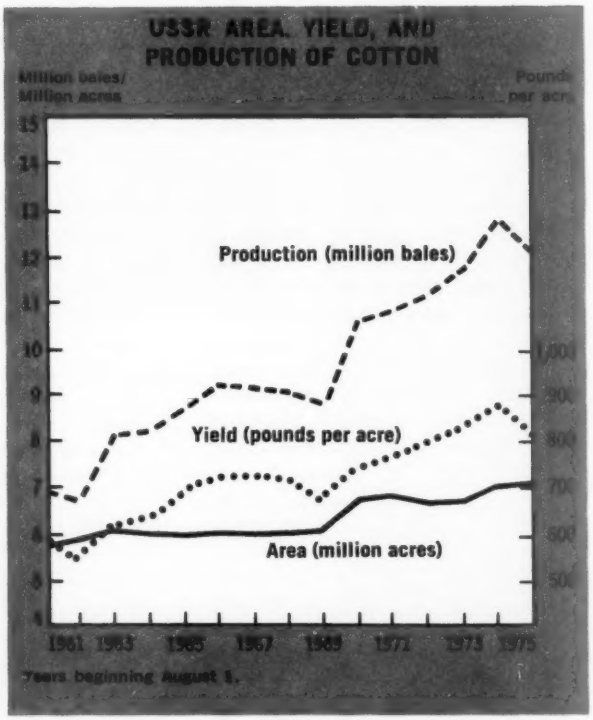
The USSR also is Western Europe's most rapidly expanding supplier—and a formidable U.S. competitor in this important market. In 1974/75, Western Europe imported 5.2 million bales from all sources, compared with an average of 6.5 million annually during 1965/66-1969/70. Despite the declining market, imports from the USSR rose from an average of 427,000 bales during the earlier period to 928,000 in 1973/74 and 818,000 in 1974/75.

This expansion allowed the USSR to replace the United States as Western Europe's largest supplier during the past two seasons. It also served to accelerate the declining trend in U.S. sales there. From an average of 905,000 bales annually during 1965/66-1969/70 imports from the United States had fallen to 634,000 by 1974/75.

Among the individual markets, the USSR was Yugoslavia's largest supplier in 1974/75, with 48 percent of the country's total imports, while accounting for 40 percent of Finland's imports, 34 percent of France's, and 25 percent of the United Kingdom's. On the other hand, it supplied only 9 percent of the cotton imported by West Germany and Belgium-Luxembourg, only 5 percent of Italy's imports, and 4 percent of those by other countries of Western Europe.

Similarly strong growth is apparent in the Japanese market, but here nations other than the United States have suffered most from the competition. Japan's imports from the USSR dou-


USSR PRODUCTION, IMPORTS, CONSUMPTION AND EXPORTS OF COTTON
Million bales
Production plus imports
Production
Consumption plus exports
Exports
Consumption
1961 1963 1965 1967 1969 1971 1973 1975
Years beginning August 1 except for production, measured by ginned cotton Oct. 1-Sept. 30.


USSR AREA, YIELD, AND PRODUCTION OF COTTON
Million bales/ Million acres
Pounds per acre
Production (million bales)
Yield (pounds per acre)
Area (million acres)
1961 1963 1965 1967 1969 1971 1973 1975
Years beginning August 1.

bled from 243,000 bales annually during 1965/66-1969/70 to 519,000 in 1974/75. Imports from the United States during that same period rose from 891,000 to 1,107,000, but those from other sources fell from 2.2 million to 1.6 million.

Elsewhere in the Far East, the USSR sells small quantities of cotton to Hong Kong and Thailand and to the Korean and Vietnam Democratic Republics.

Soviet cotton is exported by a monopoly agency, Exportljon. This agency is said by West European merchants to follow the Liverpool market for the purpose of making quotations but to leave quotations open often for longer periods of time than other suppliers. Cotton destined to Western Europe and Japan is never sold for rubles but usually for dollars or the currency of the importing country. The current exchange rate is used in converting the quotation in U.S. cents per pound into the specified currency, even though delivery might not occur for several months. If the currency can be purchased at a discount for future delivery, this can be tantamount to a lower price for the importer, or at least a guarantee against a higher price in his own currency.

In addition, a bilateral agreement between France and the USSR reportedly provides incentives for French merchants to buy Soviet cotton. Importers in other countries sometimes even find it more economical to buy USSR cotton through French merchants than directly.

Recently, however, the USSR has been inactive in the market. The slowdown in trade began around November 1975, when reports circulated that the USSR had become a less-aggressive export seller. Then in December it was reported that the USSR had temporarily withdrawn from the market. In February 1976, the USSR was said to be making only small sales to long-standing customers, and in March it still was not competing actively.

Since the inactivity has come on a rising market, the USSR may be playing a waiting game until prices rise to a more attractive level. However, the slowdown may also reflect the decline in the USSR's 1975/76 cotton production.

Although one of the world's largest exporters of cotton, the Soviet Union is also a sizable importer. Imports vary considerably from one year to the next. They averaged 742,000 bales annually during calendar 1965-69, peaked at 1,184,000 bales in 1970, and since have declined to 643,000 bales in 1974. Imports from Egypt declined steadily between 1970 and 1974 from 564,000 bales to 260,000, but may have increased in 1975. Sudan was the source of 275,000 bales in 1971, but supplied only 9,600 in 1974. Syria, still an important source, supplied 138,000 bales in 1974, while the USSR also buys some cotton from Afghanistan and Iran.

Why the USSR both exports and imports cotton is somewhat of a mystery.

"With practically all its cotton irrigated, the USSR has the largest irrigated cotton area in the world, and, consequently, some of the world's highest cotton yields."

The most obvious possibility is that the USSR for political and economic reasons is selling goods and services to the partner country, and cotton is one of the few items that the partner can supply in return. There is also the possibility that the USSR obtains a middleman's profit by both buying and selling cotton, considering the price paid for goods delivered or taken in exchange. In the case of Egypt and the Sudan, the USSR might have use for the extra-long staple and long-staple cotton produced by these countries.

Cotton consumption. Only the People's Republic of China (PRC) exceeds the USSR in mill consumption of cotton. Although no actual mill consumption figures have been released outside the USSR since 1970, yarn production levels indicate a total consumption of 9.2 million bales in 1975/76, compared with 12.7 million in the PRC and 7.3 million in the United States.

Cotton consumption in the USSR has been growing at one of the world's most rapid rates at a time when declines are occurring in many developed western countries, including the United States. Nevertheless, the rate of gain in the USSR may be slowing down: From 1961/62 to 1966/67, mill consumption of cotton in the Soviet Union rose 20.0 percent; from 1964/65 to 1969/70, 18.9 percent; and in the 5 years ending in 1974/75, mill consumption had risen only 13.7 percent.

Unlike cotton production, cotton-textile output was below plan—by 6 percent in 1974. Production of cotton yarn rose only 5 percent from 1971 to 1974, and that of cotton piece goods only 3.7 percent. General economic plans for 1976-80 speak of somewhat lower targets for consumer goods and more emphasis on quality, but quantitative goals on textiles are not yet available.

The per capita consumption of all apparel fibers rose from 11.8 kilograms in 1965 to 13.3 in 1970, and 14.1 in 1974. The latter figure compares with 14.8 kilograms in Western Europe, 14.1 in Eastern Europe, 24.9 in the United States, and a world average consumption of 7.1 kilograms.

The USSR relies much more on natural fibers and much less on manmade fibers than the United States or Western Europe. Cotton consumption per capita is now nearly as large as in the United States, 7.8 kilograms versus 8.5, and wool consumption is nearly four times larger—1.5 versus 0.4. Flax is an important component of fiber consumption in the USSR, 1.7 kilograms per capita, but its use is a negligible 0.3 kilograms in the United States. Rayon or cellulosic manmade fiber is used to a considerable extent in the USSR, 2.3 kilograms, though not as much as in the United States, 3.1 kilograms. USSR consumption of noncellulosic manmade fibers, including polyester, nylon, acrylics, however, is a very low 1.5 kilograms compared to 12.6 in the United States (1973 figures).

Production of manmade fibers totaled 955,000 tons in 1975 and is expected to exceed 1.0 million in 1976. The new 5-year plan calls for a 50 percent increase in chemical fiber capacity by 1980. Fibers are accorded a low priority, however, in the plan for chemicals in which top billing goes to fertilizer and plant protection.

The USSR is largely a self-contained market for textiles with a small import of cotton yarn mostly from Egypt and a small import and export of cotton piece goods. There is a modest import of manmade fibers from Western Europe and Japan, but apparently not much now from Eastern Europe.

Argentine Oilseed Crops Rebound

ARGENTINA'S 1975/76 combined oilseed crop is estimated to be up from last year's level, but is virtually unchanged from that of 2 years ago. Edible oil production will probably be higher and exports increase, provided the Government fully lifts its current edible oil export embargo. Exports of inedible oils may also be higher.

The Argentine National Grain Board was the monopolistic buyer and seller of the 1974/75 sunflowerseed crop on an "emergency basis" because of shortages of local supplies. It will also keep control over the 1975/76 crop unless some unseen circumstance forces a relinquishment.

Production. The total 1975/76 oilseed harvest is estimated at 2.45 million tons, 4 percent greater than that of 1974/75. The crop in 1973/74 was 2.35 million tons.

The drought that struck the central grain/oilseed belt in December 1975 resulted in smaller sunflowerseed and soybean plantings than had earlier been forecast. Favorable rains fell in January and February 1976, however, but probably resulted in some damage to sunflower stands. Also a late frost may have further reduced sunflowerseed prospects, but the yields of early stands harvested in the north have been described as outstanding.

Sunflowerseed production is estimated by the U.S. Agricultural Attaché at 850,000 tons versus 732,000 tons the previous year. The planted area was up 14 percent and yields of some hybrid varieties — planted experimentally — were said to be fantastic. These reportedly range from 2,000 to 4,000 kilograms per hectare with oil yields of up to 46 percent. Some farmers are interested in planting these varieties as a second crop to new Mexican-crossed wheat varieties.

Soybean plantings increased 7 percent to 394,400 hectares and production is estimated at 525,000 tons versus 485,000 tons the previous year. Cottonseed production—largely as a result of a 22 percent drop in plantings to 400,000 hectares—is placed at 220,000 tons, compared with 313,800 tons in 1974/75.

Although the area sown to peanuts was reduced 5 percent to 363,000 hectares in 1975/76, production is expected to be 380,000 tons, virtually the same as the previous year's 375,200 tons because of more favorable yields.

Flaxseed production has been revised downward from last year's 380,700 tons to 371,800 tons, although trade sources believe the final crop might be even lower. Tung nut output is estimated at 100,000 tons, up 50 percent from the previous year's frost-damaged crop of 66,000 tons.

Edible oil outturn is forecast at 455,000 tons, 29 percent more than in 1975, but virtually the same as in 1974. The larger production of sunflower seed and soybeans—plus a carryover of peanuts—is expected to support this rise. For the inedible oils, linseed oil production is not expected to be much changed from 1975's output, and is estimated at 94,500 tons. Tung oil outturn is estimated at 20,000 tons.

Total meal production is forecast to increase by 18 percent to 1.14 million tons, up from 961,600 tons a year earlier. Cottonseed meal output in 1976 should remain at the 1975 level of 94,000 tons and linseed meal outturn is expected to fall about 200 tons to 196,500 tons. Sunflower meal is estimated to rise from 267,500 tons in 1975 to 348,000 tons; soybean meal from 323,500 to 368,000 tons; and peanut meal by 65 percent from 79,900 tons to 132,000 tons.

Exports. Edible oil exports declined sharply in 1975—to 24,200 tons from 106,500 tons in 1974. The main reasons were that only 30,000 tons of soybean oil exports were permitted last year and all other edible oil exports, except olive oil, were prohibited because of the poor sunflowerseed harvest. Linseed oil shipments rose to 76,000 tons in 1975 from 69,700 tons in 1974, and tung oil exports expanded to 14,600 tons from 9,900 tons.

A quota for exports of 20,000 tons of peanut oil was authorized in late January and based on prospects early in the year, 1976 exports of edible oils could reach 90,000 tons. Because of world price relationships, peanut oil probably will be Argentina's major oil export with foreign sales approaching 50,000 tons.

An estimated 40,000 tons of soybean oil are likely to be exported this year. These sizable soybean oil exports enable oilseed processors to defer to the Argentine preference for sunflowerseed oil, and retain sufficient stocks for the domestic market.

Total meal exports in 1976 are forecast at 690,000 tons versus 557,400 tons in 1975 and 523,500 tons in 1974. By category, shipments in 1976 are estimated to be 250,000 tons of sunflowerseed meal, 150,000 tons of soybean meal, 190,000 tons of linseed meal, and 50,000 tons each of peanut and cottonseed meal.

—Based on report from
Office of U.S. Agricultural Attaché
Montevideo

REPORT ON 1976 USSR GRAIN CROP OUTLOOK

Early-season prospects for the 1976 USSR total grain crop suggest that, based on conditions as of early June, outturn is very likely to fall short of the plan level of 205 million metric tons.

Based on information available to date, and assuming average weather for the maturing and harvesting phases, it is estimated that the winter grain crops will total only about 45-50 million tons. Most of the shortfall would be in winter wheat, which normally accounts for about 60 percent of total USSR winter grain area. Yields for the combined winter grain crops are currently expected to average at least 10 percent below normal. The balance of the expected winter grain shortfall results from the unusually small area remaining for harvest.

Recent official news reports indicate that plantings of spring-grown grains including corn for grain, reached about 100 million hectares this year.

Planting reports from individual regions indicate that spring sowings may have fallen 1-2 million hectares short of compensating for the unusually large abandonment of winter grains. Assuming these indications are correct, the total grain area for harvest in 1976 is tentatively estimated at 126 million hectares as compared with about 128 million in 1975.

Current 1976 harvest prospects are clearly less favorable for wheat than for other grains.

India May Set Peanut Output And Export Records

ADEQUATE RAINS in India's main peanut growing States have made possible the harvesting of what is believed to be a record 1975/76 [1] crop, after 3 years of drought that followed the previous record harvest in 1971/72, according to Oldrich Fejfar, U.S. Agricultural Officer in Bombay. Exports of peanuts also probably will be a record in 1976, with shipments more than twice the size of the previous high in 1974.

Current peanut outturn is estimated at approximately 7 million tons [2], about 40 percent higher than the 1974/75 level of 4.99 million tons, and significantly higher than the earlier record of 6.2 million tons. Responding to the rains in Gujarat, Andhra Pradesh, Karnataka, Maharashtra, and Tamil Nadu, output increased in at least three of these States.

Gujurat led in production with a bumper peanut crop of at least 1.8 million tons—25 percent of India's total output—despite the reported diversion of some peanut area to food crops, the result of the State's difficult situation in the past 3 drought years. Andhra Pradesh and Tamil Nadu were the two next largest producers.

Because of the timely rains, India's yield in 1975/76 averaged approximately 865 pounds per acre. The per-unit yield of peanut oil is also said to be excellent.

The current crop estimate is based on an area set in November 1975 at 7.2 million hectares by the All-India Oil and Oilseeds Trade and Industry convention in New Delhi. The Government's first official peanut area estimate, made the following month, reported that 5.6 million hectares had been planted this season, but the Government's final estimate is often some 25 percent higher than earlier ones. If farmers took full advantage of the rainfall, they may have planted more area than originally estimated and the final total may be more than 7.2 million hectares, Fejfar said.

Prospects for Indian peanut exports in 1976 appear to be extremely good because the country's peanut prices are said to be attractive on world markets, even though the Indian Oil Producers and Exporters Association (IOPEA), the organization through which all Indian peanut exports are channeled, sets different floor prices for exports to different destinations.

About 150,000 tons of hand picked, select (HPS) peanuts had been committed for shipment beginning November 1975, of which 50,000 tons were reportedly shipped prior to mid-February 1976.

The trade believes that in view of the size of the current peanut crop about 50,000 tons additional can be sold, bringing 1976 exports to some 200,000 tons.

The previous export record was nearly 85,910 tons in 1974.

Exports of HPS kernels were large in 1975, ranking second in volume to the record shipments of 1974. Foreign sales were particularly heavy during December, following the harvest period. Peanut oil and vanaspati exports—because of stringent export controls—were negligible last year, while those of peanut meal were disappointing.

Official Indian data for 1975 exports are available only through June, but they reveal that during the first 6 months of the year, exports of HPS kernels amounted to 42,361 tons, about half the 80,816 tons shipped during the corresponding period of 1974. And, while shipments were relatively minor during July-October, because of the previous year's drought-reduced harvest, the December surge brought the July-December total to between 30,000 and 35,000 tons. Thus, the full-year total amounted to about 75,000 tons, some 12 percent less than 1974's exports. About two-thirds of the 1975 exports went to rupee account countries, with the Soviet Union being the largest importer, according to Fejfar.

Exports of peanut oil and vanaspati were restricted to less than 500 tons in 1975, but in 1976 the State Trading Corporation (STC) has reportedly committed about 10,000 tons of oil for export. If this oil is exported, it would be the first sizable quantity shipped from India in over a decade.

Indian peanut meal exports during 1975 were down sharply from 1974's, largely because of strong competition from other protein-food supplying countries such as Brazil and the United States and reduced overall demand caused by the recession. The world price, which at one time had shot up to more than £110 sterling per ton, has now dropped to £47 per ton, a price at which it is still difficult to sell peanut meal, Fejfar reported.

The export target for peanut meal, set by the Groundnut Extraction Export Development Association (GEEDA) for 1975, was 700,000 tons. According to the Association's preliminary data, about 560,000 tons were shipped, but the total may be revised upward to about 580,000 tons when the year's figures are finalized. These totals compared with the 708,269 tons shipped in 1974 and the 1971 record of 861,404.

Poland was the single largest buyer of Indian peanut meal in 1975, accounting for nearly 190,000 tons, or about one-third of last year's total shipments. All told, the rupee-payment countries bought nearly 400,000 tons, 70 percent of the total shipped, Fejfar noted. About 125,000 tons (21 percent) went to West Europe and the remaining 50,000 tons (9 percent) went to other free-foreign-exchange countries.

THE DEMAND FOR Indian peanut meal seems to have strengthened somewhat in early 1976, with sustained interest evidenced by Poland, the Soviet Union, and several other rupee payment countries. About 350,000 tons of peanut meal were reportedly booked for shipment through April 1976, but—with this year's large peanut crop—total meal shipments may exceed 800,000 tons.

India's per capita consumption of peanut oil has risen to an estimated 5.3 pounds in 1975/76 from 4.5 pounds in 1972/73, helping to boost total intake from 1.06 million tons to 1.45 million tons in the same period. When required to meet pressing shortages and to keep domestic prices in check, imports of oilseeds and their products are made through the STC.

According to the Vanaspati Manufacturers Association of India (VMAI), about 70,000 tons of edible oil were imported in 1975, Fejfar reports, including about 50,000 tons of palm oil, 15,000 tons of rapeseed oil, and 5,000 tons of sunflower oil.

[1] **Production data are given in-shell and on an October-September crop-year basis; imports and exports on a shelled, calendar-year basis.** [2] **All tons are metric.**

Cattle Output on the Rise In Colombia's Eastern Plains

By CARLOS VAN COTTHEM
Office of U.S. Agricultural Attaché
Bogota

SWEEPING across northeastern Colombia into neighboring Venezuela is a sea of grass known as the Llanos Orientales, or Eastern Plains—next in size to the Pampas of Argentina, a vast natural prairie and potentially one of South America's richest cattle regions.

For Colombia, the Llanos' potential so far is largely untapped, with its far-flung cattle producers still an isolated people more at home with practices of their forefathers than the modern methods of many other Colombian cattlemen. But progress is slowly coming to the Llanos, nurtured by road building, health, irrigation, and other projects, as well as by an ambitious Government program to up livestock production in the region. So great is the promise, in fact, that many Colombians see this region eventually supporting more cattle than are now produced in all of Colombia.

Arguing for the eventual achievement of this prediction is the region's vast size: 125 million acres, an area equal to that of France and Spain combined. Some 78 million acres of this land lie in Colombia, bordered by the Andes Cordillera on the west, the Guaviare River on the south, the giant Orinoco River on the east, and the Arauca and Meta Rivers on the north.

With one-fourth of the land area of Colombia, the Llanos boasts a variety of ecological characteristics. The Piedmont area of the Cordillera consists largely of tropical forests and has an elevation averaging 1,500 feet; rainfall, 180 inches per year; and temperature, 77°F. To the east is a transitional zone of savanna bordered, along rivers, by humid tropical forests. Finally, there are the savannas and dry tropical forests of the Orinoco River area, which accounts for half the Llanos region and averages 66 inches of rainfall a year, temperatures of 82°F, and an elevation of 300 feet.

Agricultural enterprises range from smallholder crop and rice plantations in the Piedmont to semi-intensive agricultural enterprises on the fertile soils between the Metica and Manacacias Rivers. But it is livestock production that predominates.

Cattle production has been important to the Llanos since colonial times, and the typical "Llaneros" still are the cattlemen and cowboys of isolated ranches and the sometimes-harsh open savannas. Life on many such ranches continues today as it did in the past, with this tendency to cling to traditional practices mirrored in the region's small share of total Colombian livestock production. The region's cattle herd, for instance, numbers only 3.5 million head out of a Colombian herd of 24 million, whereas the Llanos is believed capable of producing 25 million head given modern livestock practices.

"... the typical 'Llaneros' still are the cattlemen and cowboys of isolated ranches and the sometimes-harsh open savannas."

Because of the region's isolation, cattle breeds were for many years such "criollo" descendants of early Spanish breeds as the San Martinero, Casanareno, and Araucano. In the 1930's, Brahman bulls were introduced into the herd; later, female Brahmans were introduced along with other breeds like Santa Gertrudis, Brown Swiss, and Charbray.

The predominant livestock enterprises of the savannas are cow-calf operations, including production of steers over periods of up to 2 years. These steers then are fattened on improved grasses of the Piedmont areas.

Management of the herds is primitive. Herds generally consist of a single unit, where all animals are grouped together with corresponding problems of inbreeding, early pregnancy, and siring by low-quality animals. Since cattle raising is an extensive operation and distances are long, the formation of pasture lots is impractical.

Pastures in the Llanos generally consist of one grass species, with high and low grazing areas for the humid and dry periods to maximize use of the forage supply. Still, forage is greatly reduced during the dry season, requiring a stock rate of about 25 acres per head, compared with 8 acres during the rainy season. Pastures are generally burned during the dry period before the first rains as a means of stimulating new grass growth.

Fences are scarce. Those that do exist usually do not mark boundaries of farms, but instead set off improved pastures or areas for shortime holding of herds.

Typical ranches of the Llanos are bigger than in the Argentine Pampas—where farms are family units—with extensive dependence on hired labor.

Production results on these farms lag far behind those of many livestock enterprises. For instance, total productivity of herds, or turnoff rate, varies between 8 and 15 percent, compared with over 30 percent in the United States, owing to low calving rates (40-50 percent), high mortality (10-15 percent), early calving of heifers, and the old age of steers (4-5 years).

The level of investment is low—especially for fences, watering troughs, buildings, machinery, and pasture improvement—with 94 percent of the total investment going for land and cattle.

As in the past, trailing is the main means of transporting cattle from inland ranches of the Llanos to the Piedmont for fattening. The Meta River traditionally has been another important transport medium, but its use has slackened as trucking has expanded. Today, in fact, around 20 percent of the total live fat steers supplied by truck to the Bogotá market come from Arauca and the Casanare Plains of the Llanos, while another 40 percent come from the Meta and Vichada Plains. In addition, packinghouse facilities exist at Villavicencio.

Despite the predominance of traditional production methods, modern livestock units are slowly coming to the Llanos—ranches that, for instance, provide good management, adequate water, fencing, and care of livestock. At the same time, new blood is being introduced into the herds, especially the adaptable Brahmans.

On the modern ranches, 5-8 bulls per 100 cows are used, heifers are placed in the best savanna pastures, seasonal breedings of 3-4 months are the rule, and calves are born during the dry season so as to have access at weaning to tender grass during the wet season. Classes of stock are separated, and heifers are bred at 2 years of age.

Aiding in these endeavors are a number of Colombian Government programs.

For instance, ICA—the Colombian Government agricultural research, education, and extension institution—has two experiment stations in the Llanos. These stations have developed short- and long-range improvement plans that can be applied by cattlemen in the area to bring immediate results, such as:

- Raising calving rates to 80 percent with good management and nutrition; eliminating nonfertile animals, and controling diseases and parasites. This would allow for the sale of 60 animals per year, compared with 28 at present from a 100-cow herd.
- Selling steers at 2½ years of age instead of 4—for a 150 percent gain in beef production—by improving pastures, and feeding minerals.
- Reducing calf deaths to 3 percent by improving sanitation practices;
- Improving pasture utilization for potentially a fourfold production gain —through a program to replace certain native grasses with improved grasses.

These improvements can be put into effect under current animal and pasture conditions and with certain improvement in pastures for fattening. Overall, it can boost output 350 percent above past levels.

Long-term improvements promoted by ICA are seen contributing to a potential 23-fold boost in Llanos beef output. These improvements are based on better management, feeding, health, and breeding programs; pasture improvements; and introduction of new grasses—exemplified in an experimental farm called CARIMAGUA. A 50,000-acre experimental ranch established by ICA in the heart of the Llanos, CARIMAGUA receives technical assistance from the International Center for Tropical Agriculture (CIAT). The experiment is also supported by the Ford, Kellogg, and Rockefeller Foundations.

Primary objectives of this ICA-CIAT project is development of a family farm system with two components:

- A food production component to cover basic family food needs, produce feed for pigs and chickens, and improve supplementary farm income; and
- A beef cattle component as the main moneyearner, based on use of year-round pastures of improved grass, legume mixtures, and native pasture reserves.

To accomplish the latter goal, extensive research is being conducted on pasture systems, feed supplements, herd management, animal health, and economic analysis.

In addition to these programs, several other organizations provide technical and financial assistance. One is the Colombian Federation of Cattle Growers, FEDEGAN, which provides immediate help and supervision of activities ranging from animal health campaigns to development of international markets for meat products. Its work is supported by private investors in Colombia and by international and Government financing. Commercial banks also lend a certain percentage of their deposits for agricultural and livestock development.

Meanwhile, prospects for future development brighten as roadbuilding and other improvements gradually break through the traditional isolation of the Llanos. For instance, now underway is a highway between Villavicencio and Puerto Carreno toward the eastern border with Venezuela. And there is the Amazon Marginal Highway along the eastern Andes over the Amazon Valley areas of Bolivia, Peru, and Ecuador, which will eventually connect with the Venezuelan Highway network at the Arauca border.

Also needed are public utilities, health centers, and educational facilities, plus irrigation, flood control, and other land improvement projects if the Llanos is to realize its potential as a key livestock producer.

Brahman cattle in Colombia's Eastern Plains—a vast area that some sources feel may eventually produce 25 million head of cattle, or more than current production in all of Colombia.

Turkey Improving Dairy Industry on Wide Front

By YUSUF Z. DURUSOY
Office of U.S. Agricultural Attaché
Ankara

TURKEY IS GRADUALLY upgrading its dairy industry by importing cattle from the United States and Europe, as well as through a variety of other activities. Improvement will probably continue to be slow, but Turkish dairymen —backed by their Government—are determined to increase milk output and undoubtedly will continue to make sizable dairy cattle purchases in the future. The U.S. share of these imports may increase as the milk producing capability of U.S. breeds becomes more widely appreciated.

Dairy plants have been established in 50 locations throughout Turkey to encourage farmers to boost milk output. Credit has been made available to import additional livestock with good milk production records and ouput of mixed feed has been increased to provide more concentrated dairy feed. The Government has also expanded its present program of providing artificial insemination for privately owned cows, and is supplying farmers with more breeding stock.

Turkish Government efforts to improve the dairy industry started about 50 years ago when the first State livestock farm was established and the original herd of cattle imported. Brown Swiss cattle were chosen because they were believed to be the best dual-purpose dairy animals for Turkey. They were primarily used on State farms to cross with local breeds to improve milk production.

But Government efforts to build up the dairy industry have been relatively unsuccessful—at least to the present —and consequently the Government has encouraged establishment of commercial dairy farms. A General Directorate of Livestock Development Projects came into being in 1970 and has provided credit for imports of cattle for approved projects. Funds are provided by the World Bank and administered by Turkey's Agricultural Bank.

So far, about 200 projects have been approved in 23 Provinces in the Istanbul, Ankara, Izmir, and Adana regions; 160 of them with funds loaned through the Agricultural Bank.

Because of the short distances involved, all commercial dairy cattle imports were from Europe prior to 1974. However, in that year, for the first time, the Turkish Government purchased from the United States 200 Holstein heifers, 200 Brown Swiss heifers, 10 Holstein bulls, 10 Brown Swiss bulls, and four Jersey bulls. Shipped to Turkey by air—another first—the cattle are being kept at State farms to upgrade existing State and privately-owned herds through natural and artificial insemination.

THE SUGAR Corporation of Turkey (also a State enterprise) imported another 40 U.S. Holstein heifers in 1974. The Corporation has a dairy farm, stocked with good-quality Brown Swiss and Holsteins, near each of its 17 plants. Offspring of these cattle are sold to sugarbeet farmers. Feeding and general management practices at the Corporation's farms—as well as milk yields—are as high as any found in Europe. When the farm managers wanted to buy cattle to help raise the herd's average per-cow milk outturn, they imported U.S. cattle. Their experience with these animals has been highly satisfactory and the Corporation hopes to buy more U.S. dairy stock in coming years.

Turkish dairymen received their first large-scale introduction to U.S. cattle in 1958 when the World Council of Churches—headquartered in Geneva —donated to Turkey nearly 500 Holstein, Brown Swiss, and Jersey heifer calves. Most of these were also kept on State farms, although some were turned over to private farmers and became their main breeding stock.

Even today, many of the offspring of these calves can be seen throughout the country, still serving as prime breeding stock.

These U.S. calves were run-of-the-mill, but milk output of many of them —and their offspring—proved to be better than that of European cattle imported at about the same time. This fact helped to convince Turkish Government officials to buy U.S. cattle, even though U.S. prices may have been somewhat higher.

Cooperatives also have imported dairy cattle. Some of these imports have been handled by Government agencies on their behalf.

Turkey has a total dairy cattle herd of about 13.4 million head. About 5 million are milking cows but they produce only about 3 million tons of milk annually. (All tons are metric.) In addition, 20 million sheep, 9 million goats, and 300,000 water buffaloes are also milked, bringing the annual milk total to 4.6 million tons in 1974. This figure is only about 7 percent greater than 1970's 4.3 million tons.

The current milk outturn is not enough to meet the demand of the country's 40 million people. As a result, milk and dairy products are expensive and prices have been increasing at a fast clip for the past several years.

Only about 1 million of Turkey's 13 million cattle are purebred or crosses with foreign breeds such as Brown Swiss, Holsteins, and Jerseys. The rest are crosses of indigenous breeds having limited milk outturn. In recent years, many of the foreign dairy animals have been concentrated on commercial farms around Istanbul, Izmir, Ankara, Bursa, Balikesir, Eskisehir, and Adana. The number of such farms is increasing rapidly, but they still make up only a small percent of the total.

Most of Turkey's indigenous cattle are owned by small farmers who live in villages where grazing land is limited and often of poor quality. Good hay and feed concentrates are often not available; stables are generally rudimentary; sanitary conditions are poor; and disease and parasite problems are largely unsolved. Such conditions have held the country's average per cow milk production to about 700-800 kilograms a year.

To improve privately owned dairy herds, the Ministry of Agriculture sells high-quality breeding stock, including bulls, at reasonable prices. In addition, the Ministry has put numerous bulls at stud, established several artificial insemination centers—some mobile—all available to farmers at no cost. Bulls are sometimes given to villages whose

The author (left in overcoat) and Louis Prange, Holstein-Friesian Association, Brattleboro, Vt., examine calf born during the flight of U.S. dairy cattle to Turkey in 1974. Above: U.S. Holsteins on a State farm near Bursa, Turkey.

inhabitants are willing to pay the expenses connected with their keep.

To take full advantage of the breeding opportunities offered by artificial insemination, the Government—in 1975—reorganized the Artificial Insemination Section of the Ministry of Agriculture into a General Directorate charged with promoting the use of artificial insemination methods, as well as other breeding programs. Only a few hundred doses of semen had been imported during the past several years by the Ministry and private farmers but imports of semen may increase as a result of the designation of the new Directorate.

TO ENCOURAGE the import of dairy cattle, the Turkish Government has eliminated import taxes on them. However, to protect the quality of the country's herd, licenses are issued to import only registered animals. Present regulations limit imports to four breeds: Holsteins, Jerseys, Brown Swiss, and Simmentals.

In general, Brown Swiss are recommended for central and eastern Anatolia (in the Asian part of Turkey) and Thrace (in the European part). Holsteins are mostly confined to the area around the Sea of Marmara and the western and southern coastal areas, and Jerseys in the Black Sea area. Only a few Simmentals are imported. Holsteins are rapidly becoming the most popular breed.

Most of the milk in Turkey is consumed as yogurt and cheese. Fluid milk consumption is only about 10-15 percent of the total. Much of the milk is not processed by dairy plants but is consumed locally by the producers or sold as raw milk in the immediate vicinity. Pasteurized milk is consumed mostly by city dwellers and amounts only to about 10 percent of the total fluid milk consumed.

At present, many of Turkey's 50 dairy plants—most of them built by the Government—are working below capacity because of the shortage of raw milk. But the Government still plans to build other dairies in the future in the belief that milk production and consumption will increase sufficiently to take up the slack.

In 1974, a new dairy farm and affiliated processing plant were established in Izmir as a joint venture with a Danish firm, based on cattle imported from Denmark. Operating under the name Pinar, the firm has introduced sterilized fluid milk to the local market. Despite its higher cost—30 cents at retail for a pound carton, compared with about 20 cents for pasteurized milk—Pinar's milk has been received well, particularly by consumers in the larger cities of the region, and the demand is increasing. Other Pinar products such as cheese, butter, powdered milk, and ice cream became so popular that the firm increased their output almost immediately.

The firm has imported a second shipment of 200 bred heifers from Denmark and has distributed them to contract milk suppliers on credit.

Farm prices for milk differ considerably from region to region, depending on the area's consumption requirements and transportation facilities. In some areas, especially in eastern Anatolia, feeding is based on pasturing. As a result, the cost of production is low, but —because of the milk's quality—so are market prices. In other areas, particularly those surrounding Istanbul, Izmir, Ankara, and Adana, farm milk prices are high but the dairymen have to use more expensive mixed feeds because of a shortage of good pasture.

Despite the growth of the feed industry, the major part of the concentrated feed used in the dairy industry is still prepared by individual dairy farmers. Total commercial mixed feed production is only about 800,000 tons annually, of which about 30 percent is cattle feed, mainly dairy. This amount is insignificant when compared to the country's potential requirements and prices are still rather high because the limited production is insufficient to meet the increasing demand.

Present indications are that as milk output rises Turkey might have import requirements for about 1,000 head of dairy cattle a year for the next several years. U.S. breeders can look to Turkey as a potential market for U.S. stock, provided they can meet the competition of European suppliers.

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U.S. SEED SALES FORCE DANISH STOCK BUILDUP

Competition from the United States and Eastern Europe in 1974/75 has cut into Danish field seed exports and forced Denmark to store a large quantity of its record 1975/76 production. Denmark failed to find ready markets early in 1974 although seed exports at the end of the marketing year were slightly higher than in 1972/73, according to Fred W. Traeger, U.S. Agricultural Attaché in Copenhagen.

The United States reduced its imports of Danish seed by about 50 percent to 453 tons[1] in 1974/75, while imports of U.S. seed by Denmark consisted of 226 tons of vegetable seed and 280 tons of grass seed, a total 20 percent higher than in 1973/74. Imports of U.S. grass and vegetable seed by Denmark are expected to increase slightly in 1975/76.

To prevent serious oversupply in the future, the Danish Seed Producers Organization and the seed trade have agreed to a plan setting annual quotas for each producing firm. Calling for a penalty in case of production exceeding the quota, the agreement also provides for payments for plowing up excess output, as well as a subsidy provision to boost production in case an expansion is required.

Behind the agreement is growing pressure on Denmark—one of the world's leading grass seed producers—to limit production to avoid retaliatory actions that would restrict imports of Danish seed by other countries in the European Community, says Traeger.

[1] All tons are metric.

Despite slack foreign demand in 1974/75 (July-June), total Danish exports of seed were 36,483 tons, compared with 34,385 tons the previous year. Exports of vegetable and garden seed amounted to 2,031 tons, 784 tons less than in 1973/74. Total export value was 224 million kroner, 14 percent less than the previous year's, despite a 5 percent increase in volume. (DKr6.03 = US$1.)

About 73 percent of the total went to other European Community countries—mainly West Germany, France, and the United Kingdom—while the other Scandinavian countries took 11 percent (3 percent greater than the previous year) and the United States bought 1 percent. A year earlier the United States took about 2 percent—1,010 tons.

Grass seed exports totaled 32,761 tons, compared with 28,684 tons in 1973/74. The boost was largely because of a 42 percent increase in exports of ryegrass seed and a 16 percent increase in shipments of red fescue seed. Exports of other grass varieties were off.

The United States imported 20 tons of ryegrass seed, 285 tons of Danish bluegrass, 20 tons of Kentucky bluegrass, 76 tons of red fescue, and 20 tons of hard fescue.

Exports of beet seeds declined from 3,091 tons in 1973/74 to 2,349 tons in 1974/75. About 90 percent of the total was sugarbeet seeds.

Danish imports of field seed amounted to 3,034 tons in 1974/75, compared with 3,412 tons the previous year. Imports of legume seed rose 50 tons to 284 tons. The United States supplied 32 tons of alfalfa seed, compared with 35 tons the previous year. In addition it shipped 13 tons of alsike clover seed, 97 tons of red fescue, 89 tons of Kentucky bluegrass, 20 tons of ryegrass, and 74 tons of bent grass.

The United States increased its marketings of U.S. vegetable and flower seed to Denmark with its market share going from 10 percent the previous year to 29 percent in 1974/75, for a total of 32 tons, according to Traeger.

The large 1974/75 seed crop—also a record—plus a 24,234-ton carryover from the 1973/74 crop, have increased Danish seed supplies 12 percent to 78,914 tons in 1975/76, of which 65,000 tons are available for export.

The expected drop in seed output in 1976/77 will probably bring a halt to the current downtrend in prices. In fact, most prices—except those for ryegrass and red fescue seed—are expected to improve gradually and the Danes might continue to build seed stocks until 1976/77 in the belief that the more active export market might bring higher profits.

Harvested area in 1975 was about the same as the previous year's, despite strong recommendations that farmers plow up some areas in the spring to cut down the available supply, Traeger reported. Apparently many farmers believed that since they had already made the necessary investment to plant the seed, they would let the crops grow and depend on the EC producer subsidy to help them break even. A few plowed up some seed crops.

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